

-----Preface-----

1. The authors wrote this book for whom?
2. What was the first goal in writing this text?
3. What was the second goal ?
4. What was the 3rd goal?
5. What was the 4th goal?

-----Chapter 1-----

6. The authors say this book is about what?
7. List a few examples the authors give on how knowledge about skills (performance and learning) can be useful
8. How do you see this information useful in your job ?
9. What 3 things do the authors say the concept of science imply?
10. Explain a hypothetical construct.
11. Who was Frank Henry
12. What was his major area of study?
13. List and explain the 4 points used by Guthrie to define “skill”
14. List the 3 elements critical to almost any skill
15. Define an open skill
16. Define a closed skill
17. Define a discrete skill
18. Define a serial skill
19. Define a continuous skill
20. Reproduce table 1.1 on page 9, using job-related examples.
21. Create a shooting “story” that parallels the example in RESEARCH 1.2
22. Define constant error
23. Define absolute error
24. Define variable error.
25. On a typical bullseye target which of the above method for scoring is used.
26. Which method of scoring would you use
27. How could you use both effectively?

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28. T or F – skilled performance and motor learning are interrelated concepts that cannot be truly separated.

29. Identify and define a work related skill and indicate how and why each of the below terms is important to the definition.

-----+++++++ chapter 2+++++++-----

30. Describe the information processing approach used by the authors

31. list the 3 stages of Information Processing note by the authors

32. What critical assumption does the above make?

33. describe what is hypothesized to occur in detail the above 3 stages.

34. Define RT reaction time.

35. Define Movement Time MT

36. Define response time

37. Define CRT choice reaction Time

38. Define foreperiod and discuss what effect that could have within an experimental design

39. Identify LE/CO specific tasks that represent each of the 3 Donders' task types.

40. Discuss RT/CRT with regard to Hick's Law

41. What does research say about exceptions to hick's law, especially with regard to practice?

42. Describe response compatibility.

43. What is the effect of S-R compatibility on CRT?

44. Describe Population Stereotype and contrast with S-R compatibility.

45. Give examples of job-specific Population stereotypes.

46. Describe the difference in effect of practice on SRT and CRT.

47. In which stage of information processing does anticipation occur?

48. Define spatial anticipation.

49. Define temporal anticipation.

50. Give examples of how anticipation and a "fake" might be used to the benefit or detriment on the job.

51. Define STSS

52. Define STM

53. Discuss the findings noted in the text of the Adams-Dijkstra study.

54. What might this imply about the first stages of practicing a novel skill?

55. Answer question #4 on page 38 but use a new Control Tactic or malfunction clearance drill.

-----===== Chapter 3 =====-----

56. Describe attention as noted in the book.

57. With regard to attention what is the paramount problem the performer must learn to do?

58. Is there any evidence to suggest that processing of certain incoming stimuli can be done in parallel? Give an example.

59. Describe the “cocktail-party effect”.

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60. Give a typical example in LE of the above phenomenon.

61. Describe inattention-blindness and when it was first noted by researchers.

62. Describe “sustained attention”

63. At what time frame did researches noticed that it began to decline dramatically?

64. List factors that affect “sustained attention” capacity.

65. Controlled processing has been shown to be:

- a.
- b.
- c.

66. Describe automatic processing

67. Given your answer above, how might this be evident during performance testing?

68. Under what conditions is automaticity most effective?

69. Discuss the use of constant-mapping and training.

70. Define varied-mapping.

71. Discuss the value of hands-free versus handheld phone conversation while driving.

72. Give a work example of the application of the double-stimulation paradigm.

73. Describe the demands of poly rhythms and give an example needed in UOF situation.

74. Describe internal focus of attention.

75. Describe external focus of attention.

76. Wulf et.al. suggest which focus of attention results in better performance?

77. Is there any study that suggest how skilled the performer should be to benefit from EFoA?

78. Define arousal as used in the text.

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79. Describe the Inverted – U principle (also known as the Yerkes-Dodson Law)
80. Describe “hypervigilance”
81. Describe perceptual narrowing and provide the more commonly used terms for each system affected.
82. How does the “cue utilization” hypothesis help explain the inverted-u phenomenon?
83. With regard to performance what defines a “choke”?
84. Describe 2 different theories that explain the choke phenomenon.

-----Chapter 4-----

85. Define exteroception.
86. Define proprioception
87. By what other name is the above feedback referred to?
88. Inherent feedback means what?
89. Augmented feedback is defined as what?
90. List 2 forms of exteroception.
91. Regarding your answer above proprioception, list and describe the 5 sources of information receptors that make up proprioception.
92. Research and describe the various Thermo and Mechano-receptors present in your above answer.
93. List and describe the various devices you use on a daily basis that provide haptic feedback.
94. Describe a close-loop control system, be sure to include all 4 parts in your answer.
95. What 2 types of sensor instructions does the “executive” send to the “system”?
96. Describe Feedforward information.
97. Maintaining balance is an example of what “loop” control.
98. Discuss the limitations of a closed loop control model in regard to human movement control.
99. Describe an M1 reflex and how to elicit this reflex.
100. Describe an M2 reflex and how it differs from the M1.
101. List the various names that are used to describe the 2 visual systems and explain why the authors chose the naming convention used in the text.
102. What is the relevance of understanding the visual systems to performance?

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103. Is dorsal vision able to be used in a parallel processing mode?
104. What role does ventral vision play in movement control?
105. Describe optical array and its relationship to optical flow.
106. Discuss how dorsal vision affects balance control
107. How might the mental picture of the gun grip (shape) affect the grasping behavior/performance?
108. What does the Keele and Posner results conclude with regard to vision for aiming task?
109. Describe the “quiet-eye phenomenon
110. List 2 hypotheses responsible for the effect of the quiet eye.
111. Discuss (visual) expansion rate and driving.
112. Where might you use auditory feedback about performance on the job?
113. How does the McGurk effect reveal visual dominance?

-----=====Chapter 5=====-----

114. Describe the open-loop control model and theory of movement control it illustrates. Be sure to include the 4 characteristics in your answer.
115. When and by whom was the concept introduced?
116. Why do think the authors present the “evidence for motor programs”?
117. List 3 conditions that show an increase in RT.
118. What does research involving the startle RT show?
119. What information do the deafferentation studies provide to the idea of open loop control and MP's?
120. How is a CPG like a MP?
121. How does the “inhibition” data support the idea of open loop control?
122. Discuss how “action-inhibition” may be affected by controlled vs. automatic processing regarding cue recognition and “checking” the trigger. Be sure to relate the finger-lift research in your answer.
123. What does the “blocked movement” research demonstrate?
124. Describe and discuss anticipatory postural adjustments and it implication on RT and how this relates to “cross-fit” or “functional” exercises.
125. Sir Fredrick Bartlett's quote was describing what (as coined by Schmidt)?
126. When during the “reaction” is a quick movement “parameterized”?

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- 127. Discuss the invariant feature of a GMP.
- 128. Is walking the same GMP as running?
- 129. Discuss the old saying “walk before run” concept with regard to the above.
- 130. Discuss different effectors as support for the GMP.

-----=====Chapter 6=====-----

- 131. Describe the paradigm that Fitts used for experimentation.
- 132. The index of difficulty is expressed how?
- 133. Do you think Fitts’ tasks used open loop control or closed loop control, neither or both? Explain.
- 134. Describe specific design specific to your working environmental tools/demands.
- 135. List the contributors to “noise” in the human motor system.
- 136. Does this noise change with the force of contraction?
- 137. Summarize why increasing the speed of quick movements contributes to inaccuracy.
- 138. Exceptions to the speed-accuracy trade-off involve what type of situations?
- 139. Is there a point where shorter MT become more spatially accurate? Explain your answer.
- 140. Summarize explain the S/A phenomenon at force greater than 70% of maximum.
- 141. Discuss complex bi-manual tasks and what is might suggest about the GMP.
- 142. What is the suggested reason people prefer in-phase mode of coordination?
- 143. What type of activities or tasks do GMP theorist research vs self-organization theorist?
- 144. How was concept of cyclical motion previously characterized?
- 145. When performance accuracy is threatened by increasing speed what does the system try to do?
- 146. Give an example of the above pattern change.

-----===== Chapter 7 =====-----

- 150. Describe and summarize the General Motor Ability hypothesis.
- 151. List Henry’s conclusions regarding his “specificity hypothesis”.
- 152. List at least 6 of research findings of Fleishman’s investigations.
- 153. Discuss the concept of a “superability” in light of the General Motor Ability concept.
- 154. Distinguish between ability and skill.

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155. The largest correlation seen by Addams and Fleishman was .7, what is the percentage of prediction power of this r^2 ?

-----===== Chapter 8 =====-----

156. Explain why the author chose to use the term capability-of-performance instead of only performance with regard to motor learning.

157. List the parts of the motor control model that can be improved with practice.

158. Comment on the type of change that must occur in order for learning to occur; use the boiling water/egg analogy in your answer.

159. Develop a similar analogy in the above answer.

160. Describe a *learning* curve and what they demonstrate.

161. List the major points about *performance* curves.

162. Describe the *ceiling effect*.

163. What is the *floor effect*?

164. List a few transient factors that may improve performance but not learning.

165. List 2 effects of practice

166. Explain what a transfer design study is meant to elucidate.

167. A transfer test usually refers to ...?

168. A retention test usually refers to ... ?

169. Comment on the second paragraph on page 189.

170. Describe near transfer.

171. Describe far transfer.

-----===== Chapter 9 =====-----

181. What is the single most important factor in learning a motor skill?

182. What does the *specificity of learning* imply?

183. Encouraging learners to “do their best on each repetition” presents what 2 problems?

184. On page 201 *application 9.1* develop a similar description of a C/DT or firearms practice.

185. Why might the term motor learning be a misnomer?

186. When unlearned patting your head and rubbing your belly is an example of what?

187. Develop an analogous chart to figure 9.3 with either a C/DT or firearms activity

188. Fitts' stages of learning considered acquisition of what?
189. Describe each of the above stages.
190. What 2 things did Bernstein combine in considering stages of learning?
191. Describe each of the above stages
192. Describe the Crossman study and the results
193. Outline the limitations of both Fitts' and Bernstein's stages of learning.
194. Describe the types or class of tasks that are likely to have short retention periods.
195. Conversely describe the types of tasks that are likely to have longer retention periods.
196. Describe the warm-up decrement.
197. What may improve or worsen the above phenomenon? Explain
198. How might preparatory activity used in a closed environment testing give a false sense of the level of skill acquisition?
199. Describe the term *transfer* and list its alternative name.
200. Comment on the concept of *contiguous conditioning* and transfer; list examples that you have seen or used in training.
201. Application 9.3 lists 3 major strategies for transfer teaching, list each and give an example in CDT or firearms.
202. Comment on the idea that "motor transfer is small" especially at what stage of learning.
203. Will drills allow for the transfer of basic abilities? Explain and list any examples in your past training that were aimed at such an outcome.
204. Part-practice transfer works best in what type of tasks?
205. What does research suggest about practicing parts of rapid discrete skills?
206. Discuss the practice of a 6-step draw stroke in light of the last paragraph on page 220 and the concept of progressive part practice.
207. List the principles of part practice
208. Define the term fidelity in the context of learning and the use of simulators
209. Describe physical fidelity.
210. Describe psychological fidelity.

-----===== Chapter 10 =====-----

211. An individual's intrinsic motivation is largely determined by what 3 things?
212. Describe internal and external focus of attention.

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213. Discuss what the research suggests regarding the use of each of the above on learning and performance.
214. List a few implications of the information in Application 10.1 to training methodology for you and for in-service classes.
215. The 2 streams of studies in this section are what?
216. Summarize the Baddeley and Longman study on postal workers, include practice structure retention results and satisfaction results.
217. Describe an example of this in the LE/corrections training world.
218. Discuss the concept of training efficiency vs. effectiveness and speak to the deficits that can occur with efficient training schedule.
219. Describe massed and distributed practice structures.
220. Discuss the interaction of the above practice/rest structures and its effect on task type.
221. The text outlines a few implications of distribution effects, list them and others that you see with regard to both in-service and academy training.
222. Describe a class structured with the considerations noted in paragraph 2 on page 240.
223. Give an example of a pre-class briefing including 1. What/where to focus attention, 2. How to observe, 3. "rest" practice, 4. Feedback structure.
224. Describe the schema theory in reference to motor learning.
225. How does variable practice enhance schema learning? And what does this imply regarding "only perfect practice makes perfect"?
226. List the disadvantage to the "constant" practice structure.
227. Give examples of when constant practice makes sense in your job tasks.
228. Describe blocked type practice and the intuitive sense it makes for learners.
229. Describe random practice and the problem it presents to the learner.
230. Describe the Shea and Morgan experiment.
231. Describe the *elaboration* hypothesis.
232. Describe the Forgetting Hypothesis.
234. Comment on the effect of presenting a "model demonstration" prior to each repetition.
235. List the factors likely to be responsible for the benefits of random practice.
236. Random practice is *least* effective when the task demands are what?
237. Describe and discuss the *illusion* of learning.

-----===== Chapter 11 =====-----

238. Describe the term “feedback” origin and how it applies to motor control and learning.
239. List the 2 main categories into which the above term is designated for motor learning and control
240. Describe intrinsic feedback.
241. Describe augmented feedback
- . Describe KR
242. What does research suggest about learning when the learner has no feedback?
243. Describe KP and give an alternative name for this type of feedback
244. Summarize the 4 things augmented feedback can do for the learner.
245. Summarize the Focus on Research 11.1 on page 262
246. Chiviacowsky & Wulf 2007, Lewthwaite, Wulf & Bragg 2012 have shown what about feedback?
247. It is likely (from Wulf et.al) that when the learners attention is directed toward the goal of the movement learning is what...?
248. KP is best for making what type of changes to performance?
249. Describe physical guidance and its effects on performance and learning.
250. Summarize Focus on Research 11.2 regarding video feedback usage.
251. The level of precision of feedback depends on what?
252. List and describe the 2 general descriptors of feedback frequency.
253. Describe faded feedback.
254. Bandwidth feedback combines what 2 types of information?
255. List the 2 general rules regarding bandwidth feedback.
256. Sherwood (1988) found what regarding bandwidth feedback?
257. Describe summary feedback and th results shown in figure 11.8
258. Summarize the 3 ways SF may work to improve learning.
259. Describe average feedback.
260. What type of feedback structure is most often used by C/DT-I's?
261. At what frequency (see fig. 11.10) and perceived performance did learners tend to request feedback?
262. Describe Concurrent feedback and list a previously noted type of feedback.

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263. What category of movement control would concurrent feedback make sense?
264. List 2 caveats regarding guidance and when it is most useful.
265. Describe instantaneous feedback and differentiate it from concurrent feedback.
266. Discuss what role you think interference may play in the above.
267. Kohl (2001) noted that the negative effects of 100% KR frequency were reversed with what?
268. Discuss why you think this occurred.
269. Discuss the length of time for post feedback delay intervals and how the category of movement may influence this timeframe.
- 270.

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